

## Summary of ACIP Recommendations on Immunization of Immunocompromised Infants and Children

Vaccine	Routine (not Immunocompromised)	HIV Infection/ AIDS	Severely Immunocompromised (non-HIV Related)*	Asplenia	Renal Failure	Diabetes
<b>Routine Infant Immunizations</b>						
DTaP (DT/T/Td)	Recommended	Recommended	Recommended	Recommended	Recommended	Recommended
Hepatitis B	Recommended	Recommended	Recommended	Recommended	Recommended	Recommended
Hib	Recommended	Recommended	Recommended	Recommended	Recommended	Recommended
IPV	Recommended	Recommended	Recommended	Recommended	Recommended	Recommended
MMR (MR/M/R)	Recommended	Recommended/ Consider <sup>§</sup>	<b>Contraindicated</b>	Recommended	Recommended	Recommended
Pneumococcal (PCV7)	Recommended	Recommended	Recommended	Recommended	Recommended	Recommended
Varicella	Recommended	Consider <sup>†</sup>	<b>See Note<sup>¶</sup></b>	Recommended	Recommended	Recommended
<b>Other Childhood Immunizations</b>						
Hepatitis A	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated
Influenza	Use if Indicated	Recommended	Recommended	Recommended	Recommended	Recommended
Pneumococcal (PPV23) <sup>*</sup>	Use if Indicated	Recommended	Recommended	Recommended	Recommended	Recommended

\* Severe immunosuppression can be the result of congenital immunodeficiency, HIV infection, leukemia, lymphoma, aplastic anemia, generalized malignancy or therapy with alkylating agents, antimetabolites, radiation, or large amounts of corticosteroids.

§ MMR vaccination is recommended for all **asymptomatic** HIV-infected persons who do not have evidence of severe immunosuppression (for definition, see 2000 AAP *Red Book*, Table 3.25, p. 329) for whom measles vaccination would otherwise be indicated. MMR vaccination should be considered for all **symptomatic** HIV-infected persons who do not have evidence of severe immunosuppression or of measles immunity.

† Two doses of varicella vaccine, administered 3 months apart, should be considered for asymptomatic or mildly symptomatic HIV-infected children in CDC class N1 or A1 (see "Prevention of Varicella," *MMWR* Vol 48 No RR-6, May 28, 1999, p. 3 footnote), with age-specific T cell percentages of 25% or higher.

¶ Varicella vaccine is not licensed for use in persons who have any malignant condition, including blood dyscrasias, leukemia, lymphomas of any type, or other malignant neoplasms affecting the bone marrow or lymphatic systems.  
 Varicella vaccine should not be administered to persons who have cellular immunodeficiencies, but persons with impaired humoral immunity may be vaccinated. A protocol exists for use of varicella vaccine in patients with acute lymphoblastic leukemia (ALL). (See "Prevention of Varicella," *MMWR* Vol 48 No RR-6, May 28, 1999, p. 17).  
 Varicella vaccine should not be administered to persons who have a family history of congenital or hereditary immunodeficiency in first-degree relatives unless the immune competence of the potential vaccine recipient has been clinically substantiated or verified by a laboratory.  
 Varicella vaccine should not be administered to persons receiving immunosuppressive therapy (except children who have ALL in remission, as noted above), including systemic steroids  $\geq 2\text{mg/Kg}$  of body weight or 20mg per day of prednisone or its equivalent.

\* Children who have completed the PCV7 vaccination series before age 2 years and who are among risk groups for which PPV23 is already recommended should receive one dose of PPV23 at age 2 years ( $\geq 2$  months after the last dose of PCV7). These groups at high risk include children with SCD, children with functional or anatomic asplenia, children who are HIV-infected, and children who have immunocompromising or chronic diseases.

This table is based on Table 1 of the ACIP's *Use of Vaccines and Immune Globulins in Persons with Altered Immunocompetence*, with modifications from subsequent ACIP statements.

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## Summary of ACIP Recommendations on Immunization of Immunocompromised Adults

Vaccine	Routine (not Immunocompromised)	HIV Infection/ AIDS	Severely Immunocompromised (non-HIV Related)*	Post-Solid Organ Transplant or Chronic Immunosuppressive Therapy	Asplenia	Renal Failure	Diabetes	Alcoholism and Alcoholic Cirrhosis
Hepatitis B	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated	Recommended §	Use if Indicated	Use if Indicated
Hib	Not Recommended	Consider†	Recommended	Recommended	Recommended	Use if Indicated	Use if Indicated	Use if Indicated
Influenza	Recommended if ≥50 years of age	Recommended	Recommended	Recommended	Recommended	Recommended	Recommended	Recommended
MMR (MR/M/R)	Use if Indicated	Recommended/ Consider‡	<b>Contraindicated</b>	<b>Contraindicated</b>	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated
Meningococcal	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated	Recommended	Use if Indicated	Use if Indicated	Use if Indicated
Pneumococcal (PPV23)	Recommended if ≥65 years of age	Recommended	Recommended	Recommended	Recommended	Recommended	Recommended	Recommended
Td	Recommended	Recommended	Recommended	Recommended	Recommended	Recommended	Recommended	Recommended
Varicella	Use if Indicated	<b>Contraindicated</b>	See Note‡	<b>Contraindicated</b>	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated

\* Severe immunosuppression can be the result of congenital immunodeficiency, HIV infection, leukemia, lymphoma, aplastic anemia, generalized malignancy or therapy with alkylating agents, antimetabolites, radiation, or large amounts of corticosteroids.

§ Patients with renal failure on dialysis should have their anti-Hbs response tested after vaccination, and those found not to respond should be revaccinated.

† Clinicians deciding whether to administer Hib vaccine to HIV-infected persons should take into consideration the individual patient's risk of Hib disease and the effectiveness of the vaccine for these persons. In some settings, the incidence of Hib disease may be higher among HIV-infected adults than non-HIV-infected adults, and the disease can be severe in these patients.

‡ MMR vaccination is recommended for all **asymptomatic** HIV-infected persons who do not have evidence of severe immunosuppression (for definition, see 2000 AAP *Red Book*, Table 3.25, p. 329) for whom measles vaccination would otherwise be indicated. MMR vaccination should be considered for all **symptomatic** HIV-infected persons who do not have evidence of severe immunosuppression or of measles immunity.

‡ Varicella vaccine is not licensed for use in persons who have any malignant condition, including blood dyscrasias, leukemia, lymphomas of any type, or other malignant neoplasms affecting the bone marrow or lymphatic systems. Varicella vaccine should not be administered to persons who have cellular immunodeficiencies, but persons with impaired humoral immunity may be vaccinated. A protocol exists for use of varicella vaccine in patients <18 years of age with acute lymphoblastic leukemia (ALL). (See "Prevention of Varicella," *MMWR* Vol 48 No RR-6, May 28, 1999, p. 17). Varicella vaccine should not be administered to persons who have a family history of congenital or hereditary immunodeficiency in first-degree relatives unless the immune competence of the potential vaccine recipient has been clinically substantiated or verified by a laboratory.

This table is based on Table 2 of the ACIP's *Use of Vaccines and Immune Globulins in Persons with Altered Immunocompetence*, with modifications from subsequent ACIP statements.

## Summary of ACIP Recommendations on Nonroutine Immunization of Immunocompromised Persons

Vaccine	Not Immunocompromised	HIV Infection/AIDS	Severely Immunocompromised (non-HIV related)*	Post-solid organ transplant or chronic immunosuppressive therapy	Asplenia, renal failure, diabetes, alcoholism, and alcoholic cirrhosis
<b>Live Vaccines</b>					
BCG	Use if Indicated	<b>Contraindicated</b>	<b>Contraindicated</b>	<b>Contraindicated</b>	Use if Indicated
Typhoid, Ty21a	Use if Indicated	<b>Contraindicated</b>	<b>Contraindicated</b>	<b>Contraindicated</b>	Use if Indicated
Vaccinia	Use if Indicated	<b>Contraindicated</b>	<b>Contraindicated</b>	<b>Contraindicated</b>	Use if Indicated
Yellow Fever <sup>§</sup>	Use if Indicated	<b>Contraindicated</b>	<b>Contraindicated</b>	<b>Contraindicated</b>	Use if Indicated
<b>Killed (Inactivated) Vaccines</b>					
Anthrax	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated
Lyme	Use if Indicated	See Note <sup>†</sup>	See Note <sup>†</sup>	See Note <sup>†</sup>	See Note <sup>†</sup>
Plague	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated
Polio (IPV)	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated
Rabies	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated
Typhoid, inactivated	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated	Use if Indicated

\* Severe immunosuppression can be the result of congenital immunodeficiency, HIV infection, leukemia, lymphoma, aplastic anemia, generalized malignancy or therapy with alkylating agents, antimetabolites, radiation, or large amounts of corticosteroids.

§ Yellow fever vaccine should be considered for patients when exposure to yellow fever cannot be avoided. (For details, see *MMWR* Vol. 42 No. RR-4, 4/9/93, p. 7.)

† There are currently no data on the use of Lyme disease vaccine among immunocompromised persons.

This table is based on Table 3 of the ACIP's *Use of Vaccines and Immune Globulins in Persons with Altered Immunocompetence*, with modifications from subsequent ACIP statements.

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